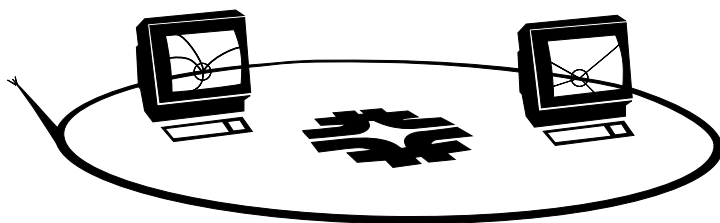


Computing News



News from the Computing Division
Fermi National Accelerator Laboratory

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VMS Migration



VMS Migration News

As you no doubt know, we have announced July 1 as the date after which general computing on FNALV will no longer be allowed. If you are unable to meet this deadline, you **must** fill out the FNALV Usage Extension Form available from the FORMS folder of INFO, from the VMS Migration Web page (<http://www.fnal.gov/vmsmigr/>), or the fnal.forms newsgroup. Please use this form to explain why you will not be able to migrate from FNALV by July 1 and provide a timetable for migration.

If you have archiving requirements on UNIX or large numbers of files that must be moved from the VMS archive, it is important that you fill out an archiving questionnaire.

We also need to know about uses of FNALV resources that don't require direct logins or require only occasional logins. Examples are such activities as copying the LIB disks and sending files to FNALV to archive them. Please inform us via the usage extension form.

As part of the phasedown, new accounts are no longer being added to the FNALV cluster except by special request. Please refer to the accompanying article on the FNALV rampdown for more information about the resources on the cluster.

We will be contacting users holding large amounts of disk on FNALV in order to retrieve as much disk as we can as early as possible.

One of the issues of the migration is mail being sent directly to the FNALV cluster. We strongly urge you to use `fnal.gov`, the mail server, as your central point of mail into Fermilab. It provides a stable e-mail address, allowing you to move from one system to another without interruption in your e-mail service. You will need to inform people to use your address on the mail server if they are not already doing so. Many modern mail systems allow you to set your preferred mail address. If you are still using VMS Mail, you can set your personal name to include your address on `fnal.gov` so that people who receive mail from you will be obtaining your preferred mail address now. For example:

```
$ SET PERSONAL_NAME "Judith Nicholls, nicholls@fnal.gov"
```

Judy Nicholls, x3989, nicholls@fnal.gov

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FNAL, FNALV, and Your Mail

What are FNAL and FNALV? FNAL is the laboratory mail server. Although it used to be the name of the central VAX cluster, this has not been the case for several years. FNAL the mail server is a permanent mail facility. You don't need to know what it is or what system it is running since you only log into it in order to change your mail forward. Everyone with an account on systems at Fermilab is encouraged to get an account on the mail server and to use as their mail address something of the form

username@fnal.gov

If you do this you will have the following benefits:

1. Your mail will come to you independent of where you read your mail. If you change where you read your mail, all you have to do is set your forward on the mail server to the new system. It is intended that fnal.gov be the standard mail address for all Fermilab staff and users.
2. The mail server is a reliable service. The mail server is only used for mail, so it is extremely rare that it goes down or is unavailable. In addition, it is on an uninterruptable power supply, so it can ride out short power interruptions. The mail server has the ability to store your mail if the system where you read it is down and it will forward it to you as soon as it comes back up. It has lots of disk.

If you're currently using Quickmail exclusively and not using FNALV for any of your mail, you don't need to do anything. However, you might want to consider alternatives.

If you are currently using FNALV for your mail, you will need to decide what mail system to switch to. If you have a PC or Mac and most of your work is of an administrative nature, you may want to use a PC- or Mac-based mail system such as **Eudora** or **Pegasus**. If you use UNIX for your work, you may want to switch to a UNIX-based mail system such as **exmh** or **pine**. You probably also want to check with your group or workgroup to see what those you work with are using or planning to switch to. If you are going to UNIX, the new *UNIX at Fermilab* should answer your questions about mail. If you choose a PC or Mac, work with your division or group's support personnel to implement your new system.

If you currently have your mail forwarded to FNALV, you will need to switch your mail forward on FNAL the mail server to the new location. You should also forward your mail from FNALV to FNAL so any mail that comes directly to FNALV will be forwarded to you via the mail server. (Be careful you don't create a loop here!)

There are two articles in this issue addressing mail conversion: one discusses moving your VMS mail to UNIX and the other moving your VMS mail to a PC- or Mac-based mail system.

Judy Nicholls, x3989, nicholls@fnal.gov

VMS Migration for the Impatient

This article outlines how to migrate from VMS to UNIX without reading manuals.

To move your mail:

```
setup mh ; fMHvms2mh -vms fnalv1
```

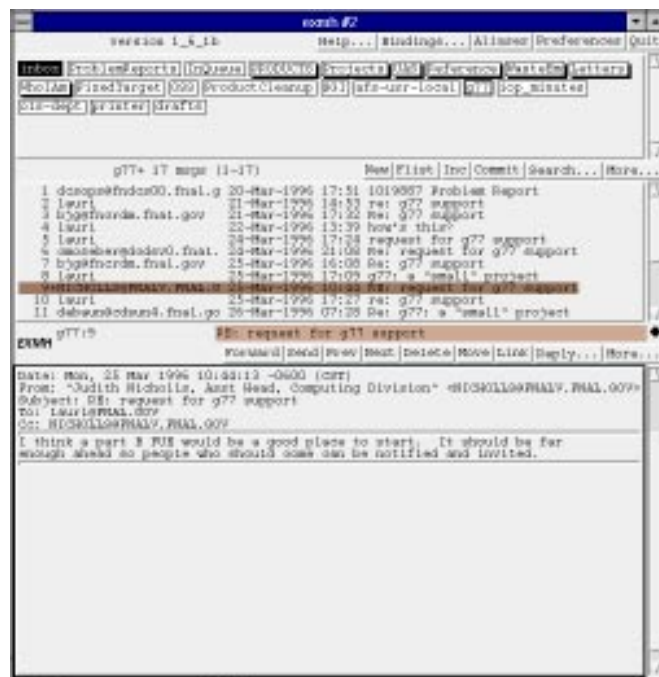
To move your files:

```
mkdir vms ; rcp -r fnalv1:'[...]*.*' vms
```

OK, what's the catch ?

You must have rcp access from your UNIX to your VMS account. This involves:

1. Creating a .rhosts file in your \$SYSS\$LOGIN directory, containing a line with the name of UNIX host you're using (fdei01.fnal.gov, etc)
2. Making sure your LOGIN.COM does not print anything out. You can assure this by exiting early with a command such as:
\$ IF \$MODE().NES."INTERACTIVE" THEN EXIT



Sample of the exmh mail interface available on UNIX

Be sure you have enough quota on the VMS system to hold at least one additional copy of your mail files. If you don't, fMHvms2mh may abort partway through the process, or produce a corrupt UNIX copy of your mail items. To check this out, do something like

```
$ SHOW QUOTA  
$ DIR [.MAIL]*.mai /SIZE=ALLOC /TOTAL
```

If you are just a bit short, move your single largest folder first, then delete that folder and compress your VMS mailbox. To move one folder, use:

```
fMHvms2mh -vms fnalv foldername
```

fmHvms2mh leaves its working directory, with a copy of all your mail files, in a VMS working directory like [.R__MAIL__username_000000nn]. You will want to delete that directory.

fmHvms2mh will not work well if you have multiple levels of sub-folders under VMS or if you have been using the DECwindows mail reader. If you use these, you'll have to read the *UNIX at Fermilab* manual.

fmHvms2mh only handles your default MAIL.MAI mailbox and associated folders automatically. If you have other mailboxes, you will have to read the manual. If you have *.MAI files in your mail directory which are not really mail items or mail boxes, you will have problems.

To use **pine** with **MH** folders, set your **pine** setup configuration to folder-collections = #mh/[]

Using smaller steps

You can make the transition in smaller steps. You should probably first forward your current new mail to UNIX, and get used to the **exmh** or **pine** mail readers.

Once you've stopped receiving VMS mail for a while, copy your mail. Then, when you're happy with the UNIX copy, back up and delete all your VMS mail. Copy your files exactly as shown. Changing any of the wild-carding is likely to do nasty things, like moving the oldest rather than most recent version of each file, or dumping everything into a single directory rather than keeping your directory hierarchy intact.

fmHvms2mh is expected to work at the 85-90% level. If you have problems with it, contact the help desk at (helpdesk@fnal.gov or x2345.)

Art Kreymer, x4261, kreymer@fnal.gov

MAIL_CONVERTER Utility

A new utility designed to convert VMS mail to formats suitable for use on PCs and Macs, called **MAIL_CONVERTER**, has been installed on the FNALV and FNALD clusters. This utility allows you to convert your VMSmail format mail into **eudora**, **pegasus**, or **pine** format mailboxes which can then be ftp'd to the desired location. To use **MAIL_CONVERTER**,

1) Log into the FNALV or FNALD clusters, and issue the command:

```
$ SETUP MAIL_CONVERTER
```

2) Decide what mail folders (and/or files) you wish to convert, then invoke the conversion program as follows:

```
$ MAIL_CONVERTER [qualifiers] [mail-folder-spec] [mail-file-spec]
```

Note: The **MAIL_CONVERTER** utility will not affect your existing VMSmail files.

3) Once the converted mailbox is written, ftp them to the desired destination system and place in the appropriate folder. The next time you launch your Email client, the converted mailbox should be accessible to the application.

MAIL_CONVERTER accepts a number of qualifiers allowing you to tailor your conversion. You can select mail based on date (before or after a specific date), select messages based on the FROM, TO, or CC fields, specify the output format (**eudora**, **pegasus**, or **pine**), and specify whether all mail folders should be concatenated into a single mailbox, as well as several other options.

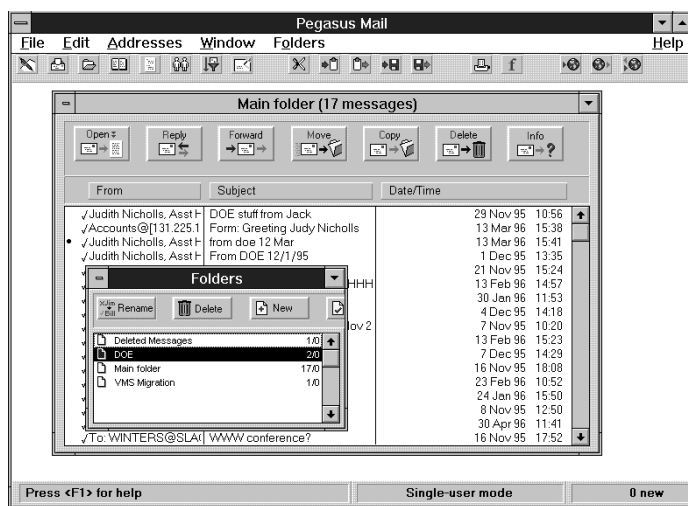
MAIL_CONVERTER is completely documented in help. Simply enter: \$ HELP MAIL_CONVERTER on the FNALV or FNALD clusters.

The command with no parameters will convert all messages in your MAIL folder in your default mail file and write them to a file EUDORA.MAILBOX in your current default directory.

```
MAIL_CONVERTER/OUTPUT=*.MBX * *
```

will automatically convert all messages in all folders in all mail files in your default mail subdirectory and write the converted messages to **eudora** mailbox files based on the name of the folder where the mail message was located.

Keith Chadwick, x2498, chadwick@fnal.gov.



Sample of the pegasus mail interface available for PCs

FNALV Rampdown

The FNALV cluster will be undergoing some changes as part of the VMS migration at Fermilab. The reduced use of FNALV allows us to decommission much of the computing, disk, and tape resources on the cluster. This in turn allows a major savings in money for maintenance on the equipment.

One of the first changes will be the decommissioning of most of the VAX 3100's. A careful examination of the disk usage on the cluster is being made so that reductions can be made in temp, project, scratch and user areas. The goal is to remove the oldest and most expensive disks from the system as quickly as possible. Many of the 8mm and 9-track tapedrives have already been removed from the cluster. More reductions will occur during the coming months.

The biggest change scheduled is the removal of FNALV1 from the cluster on July 1, 1996. This machine, a DEC 7630,

will be converted to run Digital UNIX, may be upgraded, and will be deployed elsewhere.

Another significant change is a reduction in the support of the system, consistent with the reduced role of FNALV at Fermilab. System management support will primarily cover the hours 6 A.M. to 10 P.M., 7 days per week. Off-hours support will cover only major outages that can be handled easily (e.g., reboots). Disk problems and other hardware failures will be handled during the next day.

The FNALV cluster will be much smaller by the time the bulk of the users are off of the machine on July 1. It will consist of FNALA, one or two 3100's, a 4000-90 for backup, a small number of tape drives, and a much reduced disk subsystem.

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Mike Cesari, x5041, cesari@fnal.gov

Steve Wolbers, x3950, wolbers@fnal.gov

CMS to CVS/UCM Migration

For some experiments, a major element of VMS to UNIX migration has been conversion from the VMS CMS (Code Management System) to appropriate UNIX based systems such as CVS (Concurrent Versions System) and UCM (UNIX Code Management).

Moving to the UNIX systems for ongoing development has been rather straightforward, requiring a single copy of the current version of each maintained file. But access to the full set of older file versions has required continued access to the original CMS libraries under VMS.

Therefore we have prototyped tools for conversion of complete CMS libraries to UNIX CVX or UCM libraries, maintaining all:

- files and generations,
- class assignments
- group assignments
- modification dates
- usernames
- comments

A fully automated test migration of the full code library of experiment E687 has been completed. The process was driven by a single DCL procedure on VMS and a single perl script on UNIX.

The full migration ran in under 12 hours elapsed time, and handled: 31 libraries, 4,200 files, 16,000 generations, 5,500 group assignments, 60,000 class assignments, 18 Megabytes of ASCII listings of the CMS histories and indexes, and 200 Megabytes of converted libraries.

Relatively few such migrations are expected, and each will probably involve substantial customization to suit the unique needs of each experiment.

Work is still underway, but we are ready to provide these tools to additional volunteers, and to provide appropriate advice and assistance. Please contact me.

Art Kreymer, x4261, kreymer@fnal.gov

Schedule for Shutdown of the FNPHY Cluster

It's been nearly a year now since the announcement of a phase-out of VMS support at Fermilab. During that time the Physics Section has begun the shutdown of the FNPHY cluster. This cluster of VAX workstations was a collaboration between the FNAL Physics Section and Universities used primarily for the "desktop computing" support of fixed target experiments performed between 1985-91. At its peak there were 25 Vaxstation 3100s or 3200s. The cluster was heavily used for data analysis, code development, physics calculations, mechanical design and data visualization. These tasks have nearly all been moved, over the past 5 years, to UNIX systems around the site. As the analysis demands on the cluster relaxed, the system was reconfigured to provide test stations and windowing terminals while supporting the remaining tasks. Over the past year we actively retired systems to reduce the cluster to its present 6 machines.

In October of 1995 all support agreements for the FNPHY cluster were formally dissolved and control of all University workstations returned to their home institutions. The software on the machines has been frozen at its present revision and no new accounts are being issued. We have been working with users to remove the data archived on the system and replace the tasks the cluster previously performed (printing, data storage/exchange for Macs, mail, test stations) with alternatives compatible with the computing migration policy. Users still needing help identifying replacements to FNPHY are requested to contact Marcia Streetman (marcias@fnal.gov) or myself (dane@fnal.gov) as soon as possible.

Unless exceptions are worked out with the Physics Data Support Group, we look to complete the shutdown of the FNPHY cluster on the following schedule:

1 April: Disable BATCH queues.

Remove all accounts that have not had logins in over 2 yrs.

Remove all accounts from experiments whose final data was collected in the 1987-8 Fixed Target run.

6 May: Remove all accounts that have not had logins in over 1 year.

Remove public VAXes from WH10NE.

5 August: Disable interactive logins from all but 1 account per experiment.

Remove all accounts that have not been granted extensions.

3 September: Drop support for VMS test stations.

30 September: Shut off FNPHY.

The cluster has served its users well over the past 10 years and we thank all those who helped make it a productive and useful collaboration.

Dane Skow, x4730, dane@fnal.gov

Data Support Group, Physics Section



Finger on the Mail Server

The Distributed Computing Department has installed a new **Finger_Server** on the FNAL mail server which supports traditional **finger** inquiries with usernames that are longer than 8 characters as well as wild-card **finger** inquiries using the * and % characters.

Example 1: The command

```
finger thomas@fnal.fnal.gov
```

will return

```
User THOMAS (THOMAS,A.)
E-mail address is thomas@fnal.gov
Email is routed to in%"thomas@fnpop.fnal.gov"
No plan.
```

Example 2: The command

```
finger *chad*@fnal.fnal.gov
```

will return:

```
User CHAD (RICHARDSON, DARRYL)
E-mail address is chad@fnal.gov
E-mail is routed to in%"chad@fnalv.fnal.gov"User
CHADD (SMITH, CHADD E.)
E-mail address is chadd@fnal.gov
E-mail is routed to in%"chadd@fnald.fnal.gov"
User CHADWICK (Chadwick, Keith)
E-mail address is chadwick@fnal.gov
Email is routed to in%"chadwick@poptart.fnal.gov"
User CKORTE (KORTE, CHAD)
E-mail address is ckorte@fnal.gov
E-mail is routed to in%"ckorte@fnalv.fnal.gov"
User GUNDELAC (GUNDELACH, CHAD)
E-mail address is gudelac@fnal.gov
E-mail is routed to in%"gudelac@adms21.fnal.gov"
```

Keith Chadwick, x2498, chadwick@fnal.gov

IRIS Explorer Available

IRIS Explorer, the graphics and Scientific Visualization package from Numerical Algorithms Group, is available to FNAL users and collaborators. A 48-seat license has been purchased for use by any FNAL scientists. For details on obtaining and installing the product and making use of the licenses see, <http://fnpspa.fnal.gov/explorer/fnalexp.html>.

Jeff Kallenbach, x2210, jeffk@fnal.gov

WinCenter Pro Experiment

The Computing Division, along with members of D0 and AD, recently completed a pilot implementation of Network Computing Device's Wincenter Pro software. Wincenter Pro is a multiuser implementation of Windows NT which allows access to an NT server (PC) and all the corresponding applications software from an arbitrary X-based display. That is, a user can sit at his/her UNIX workstation or X terminal and access an NT server from anywhere.

The experiment was very successful. Response from the users was almost all very favorable, and people found the convenience of accessing the same PC from different locations very useful. Users of other similar products such as SoftWindows and wabi found WinCenter Pro to be a superior solution. The performance actually exceeded predicted levels, and ISDN access was also found to be acceptable.

The Computing Division will soon be issuing a formal report on the experiment, with detailed results and a recommendation plan for deployment. For information on the project and on WinCenter Pro at FNAL, see,

<http://fnpspa.fnal.gov/winc/winc.html>.

Jeff Kallenbach, x2210, jeffk@fnal.gov

UNIX



UNIX Reference Books

The following is a list of recommended UNIX books. The Fermilab library has ordered one copy of each for the reference collection and the Computing Division has requested that the stockroom carry them. You can order books through the library or purchase them directly from a bookstore.

General UNIX Texts

UNIX for VMS Users by Bourne (Digital Press)

This is a good transition book but not a good reference book in the long term. It is probably better for most new users coming from VMS to borrow rather than buy this.

UNIX System V - A Practical Guide by Sobell (Benjamin/Cummings)

In addition to all the standard UNIX topics of networking, graphical user interfaces and X issues, plus this covers more than 50 pages each on editors emacs and vi. The 3rd edition is much better than the 2nd.

UNIX for the Impatient by Abrahams & Larson (Addison-Wesley)

The second edition (1996) is a big improvement on the first. It has a different slant than *UNIX System V* and has a strong POSIX orientation. Which of these two is better is probably a matter of personal preference.

UNIX in a Nutshell by Gilly et al. (O'Reilly)

A quick desktop reference.

Advanced UNIX for the User

UNIX Power Tools by Peek, O'Reilly & Loukides (O'Reilly)

UNIX System Administration

UNIX System Administration Handbook by Nemeth et al. (Prentice Hall)

The classic in the field. Oriented towards SUNs and SGIs

Essential System Administration by Frish (O'Reilly - Nutshell)

About the only book that covers AIX.

UNIX Application Tools

TCL and the TK Toolkit by Ousterhout (Addison-Wesley)

This seems to be the way people are going to create GUI interfaces. It is much easier and faster than with Motif. For example, the graphical interface to mail, *exmh*, is built with *tcl/tk*. This is the standard text written by the creator of *tcl/tk*.

Sed and Awk by Dougherty (O'Reilly)

Lucid explanation of the two most powerful tools in UNIX. Includes lots of scripts.

Programming Perl, by Wall & Schwartz (O'Reilly)

This is the original text co-authored by the creator of *perl*. It is at a higher level than *Learning Perl*.

Learning Perl, by Schwartz (O'Reilly)

If you don't already know the language, this is a good book with which to start.

MH and xmh - Email for Users & Programmers, by Peek (O'Reilly)

If you want to access MH based mail from a variety of platforms, or to customize and prompt with MH based electronic mail commands, this is the book you need. It includes a section on *exmh*.

Learning GNU Emacs, (O'Reilly)

This is the book for those who want to exploit the full power of UNIX

Programming and Program Design

The C Programming Language, (2nd Ed.) by Kernigan and Ritchie (Prentice Hall)

This is the classic text updated to ANSI C. Very good but not easy.

Accessing the Internet

The Whole Internet, by Krol (O'Reilly)

Word Processing

The Texbook, by Donald Knuth

LaTeX: A Document Preparation System, by Leslie Lamport

Roy Thatcher, x8364, thatcher@fnal.gov

4D/25 Farms Retirement

The original UNIX workstation farm at Fermilab, consisting of 25 SGI 4D/25S computers, was retired on February 7, 1996. The machines were purchased in 1990 and were the first attempt at parallel processing on large numbers of commercial UNIX workstations at Fermilab. The total computing power available on this farm was 300 MIPS. Very early users of the farm include D0 Monte Carlo, E706 Monte Carlo, E687 and E665 event reconstruction. In the early days the contention for this farm was quite spirited. Later when the farms grew to their current size of over 300 nodes, the old, slow 4D/25's were not quite so popular. Nevertheless, due to the nature of parallel computing on the farms, this resource of 300 MIPS was still extremely useful and the nodes continued to be used to the very last day. The primary user for the past year or so has been E706, running some reconstruction but primarily using the nodes for Monte Carlo generation.

The reason for the retirement of the farm is to save money on maintenance. Given the small (relatively speaking) CPU power and the large dollar savings the decision was made to pull the plug. The SGI 4D/25, as well as any other 32 bit SGI computer, cannot run the next release of SGI's operating system — IRIX 6.2. IRIX 6.2 is a 64 bit operating system and should be deployed at Fermilab on at least some SGI computers some time this year. It is time to move on to newer and faster computers.

Stephen Wolbers, x3950, wolbers@fnal.gov

A Prototype Next Generation UNIX Farm

A small prototype UNIX farm has been installed and commissioned in the Feynman Computer Center. This farm is the first step in planning for and acquiring large amounts of computing to satisfy the reconstruction needs of the 1996-1997 fixed-target run, as well as the simulation needs of CMS and the Auger Project, and other large computing requirements at the laboratory.

The new farm (called The Next Generation or TNG farm) consists of 8 Digital Alphastation 200 4/233 workstations, each configured with 64 MBytes of memory and a 2 GByte system disk. Seven of the workstations are "compute" or "worker" nodes. These are connected to the network via an etherswitch, giving each a full ethernet bandwidth (1 MByte/second). The other workstation, the "I/O" node, is connected to FDDI directly. The network connections give much greater overall bandwidth to the farm compared to the current farms.

The I/O node is configured with 36 GBytes of disk that is to be used as staging space for input and output. The goal is to use that space as a local buffer for data, which will be imported and exported either to local tapedrives or across the network to other storage devices (e.g., tape robots) or to other computing systems.

A single uniform file system (AFS) will be used on the farm. This will allow much greater flexibility in the allocation and use of the farm when compared to the current farm systems. The current systems are subdivided into "farmlets" which are only available to those users who have accounts and space. This has led to inefficiencies in utilization. This new arrangement should allow for any user to use any node in the system and allow for much more dynamic reallocation of resources when required.

Finally, the farm should be easily expandable. I/O node addition should be a simple addition to the FDDI ring of a workstation or server. A set of additional worker nodes required additional ports on an existing etherswitch or the addition of an etherswitch.

The farm is available for early users. Those who are interested should attend the farms users meeting (held every two weeks on Wednesday at 2:30 P.M. in the Hornet's nest (WH11NW). See the farms home page

<http://fnhppc.fnal.gov/farms/farmspage.html> for more information, including pointers to pages with the meetings schedule.

Marilyn Schweitzer, x8781, marilyn@fnal.gov

Stephen Wolbers, x3950, wolbers@fnal.gov

X Terminals

Two New Series X Terminals Added to Recommended List

The newest models in the Network Computing Devices and Tektronix product lines have been added to the Computing Division's list of recommended terminals. Both vendors are marketing new units customized for different users' needs. In keeping with the Computing Division's policy, this means that boot and font service are provided for these terminals from fnalu, and that purchasing guidelines and templates are provided.

At the present time, NCD is not carrying any monochrome terminals. Thus, users wishing to purchase a monochrome unit should purchase the Tektronix XP219MH, using a "Sole Source" addendum to the usual purchase requisition. NCD is expected to market a new monochrome unit some time this year.

The Computing Division believes that there will be a trend by vendors away from providing monochrome units. In looking at the FNAL prices for the various units, it is clear to see that the price difference between monochrome and color units is diminishing. Users considering buying monochrome terminals should consider upgrading to a color unit for extra flexibility. We will of course continue to support any of the units sold by our recommended vendors.

For details see,

<http://fnpspa.fnal.gov/xspt/x-support.html>.

Jeff Kallenbach, x2210, jeffk@fnal.gov

Communications

DECnet Connectivity

The trans-Atlantic DECnet link that supports U.S. <-> European DECnet access is likely to go away in the near future. Since last December, general DECnet connectivity between the U.S. and Europe has been carried on the ESnet <-> INFN (Italy) trans-Atlantic link. INFN has been able and willing to support general DECnet traffic on their trans-Atlantic link as a public service to the HEP community. However, it is not clear how much longer INFN will be able to continue that support. Changes in ESnet <-> INFN connectivity are likely in the near future, and general trans-Atlantic DECnet access could be lost as a result. Users need to be aware that DECnet access to Europe is no longer a guaranteed service, will likely disappear in the near future, and could do so on short notice.

There are two options available for DECnet users with European access requirements. Both options involve the use of TCP/IP and the Internet. Nearly all HEP DECnet systems in the U.S. and in Europe already support TCP/IP and are Internet-accessible. The rare DECnet system that doesn't support TCP/IP will need to acquire a VMS TCP/IP product (DEC's UCX, TGV's Multinet, etc.), as well as Internet access in order to utilize either option.

The recommended option is simply to migrate over to use of comparable Internet applications. Use telnet instead of SET HOST for virtual terminal access, smtp mail & Internet addresses instead of VMS Mail and DECnet addresses for e-mail, and rcp or ftp instead of copy to transfer files between remote nodes.

The less desirable option is use of DECnet/IP, a capability within the DECnet/OSI product to allow use of DECnet applications natively over TCP. For example, the command

```
$ COPY xyz.txt AXCRNA.CERN.CH:xyz.txt
```

on a DECnet/OSI system would run the VMS DECnet COPY utility to copy file xyz.txt to IP node AXCRNA.CERN.CH. TCP would be utilized instead of DECnet/NSP for network transport and the Internet would carry the file transfer instead of the DECnet network. DECnet/IP requires VMS 6.1 (or greater) and DECnet/OSI to be running on both local and remote systems. DECnet/OSI is normally available as part of software maintenance on VMS systems. Upgrade to DECnet/OSI will not affect DECnet connectivity with the existing DECnet network, merely provide the additional capability to utilize TCP and the Internet with DECnet applications.

DECnet/OSI has been deployed fairly widely in Europe, but has little deployment within the U.S. Users with VMS DECnet applications that can not easily be migrated over to comparable TCP applications may want to consult with their system manager about the feasibility of upgrading their system to DECnet/OSI to enable use of DECnet/IP.

Regardless of whether DECnet users migrate their European network access needs to Internet applications, or switch over to

DECnet/IP, it will be necessary to replace 6 character DECnet node names with the fully qualified Internet node names. The Computing Division will provide a list of DECnet <--> Internet European node name mappings to assist in this effort. However, it is not possible to assemble an all-inclusive list of European DECnet nodes, and users may want to solicit Internet node names for key European DECnet nodes before DECnet connectivity to Europe is lost.

The ESnet-DECnet (aka HEPnet) strategy for general wide area network DECnet support calls for the existing DECnet network to be maintained through April 1997. The possible loss of DECnet Phase IV access with Europe prior to April 1997 is hopefully an isolated instance. However, after April 1997, there is no guarantee of wide area DECnet support across ESnet either. DECnet users should plan to migrate over to Internet applications by that time, or upgrade to DECnet/OSI so DECnet/IP can be used over the Internet.

Migration to Internet applications is strongly recommended because it is consistent with the Laboratory's statement of direction on operating system support (i.e., moving to UNIX and pc's). There are also strong trends in the computing industry in this direction. Use of DECnet/IP may actually require more work in many cases, since it only forestalls the eventual migration away from VMS applications.

For further information on DECnet/IP, see the ESnet-DECnet recommendations on installation of DECnet/OSI and use of DECnet/IP at

<http://www.es.net/hypertext/committees/edwg>

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Bitnet Migration

The University of Illinois at Chicago (UIC), has also announced plans to end support for BITnet as of October 1. Since UIC is the BITnet hub that supports FNAL's link to the rest of BITnet, the Laboratory will cease its Bitnet support at that time.

CREN (Corporation for Research and Educational Networking), the organization responsible for supporting BITnet/NJE in the U.S., has announced tentative plans to end support for the BITnet infrastructure as of December 31, 1996. CREN recommends migration of BITnet applications over to use of the Internet.

CREN members (FNAL currently is still a member) are urged to continue their NJE connectivity at least until the end of June to allow for an orderly transition from BITnet to the Internet. This means gradual, site-specific losses in BITnet connectivity in the months following June as BITnet sites disconnect from the network, leading up to the UIC cutoff date of October 1, at which point all FNAL off-site BITnet connectivity will be lost. For example, SLAC has announced they will shut Bitnet down in June.

The impact of this for Laboratory users will be loss of BITnet e-mail (Jnet%". . .") and SEND command (SEND, SEND FILE, SEND/COMMAND, etc.) connectivity to BITnet sites that have disconnected.

LISTSERV distributions that haven't been converted to Internet addresses (i.e. user@fnal.gov as opposed to user@fnal) will also be affected since there may no longer be a BITnet path back to FNAL.

An FNAL "BITnet to Internet Migration Plan" is currently being developed (and will be posted when complete) but it is strongly urged that the use of BITnet applications be migrated as quickly as possible to equivalent Internet applications. **smtp** mail should replace BITnet e-mail and ftp used for file transfers. The BITnet/NJE link that supports FNALVM's only network access will be maintained as long as it is needed. FNALVM users will need to use FNAL (the facility mailer) as their mail gateway to the Internet.

Further information on CREN support of the BITnet/NJE network can be found on the CREN WWW Server at URL <http://www.cren.net>. The server contains Internet migration hints and tools, including LISTSERV re-addressing and BITnet-to-Internet node name mapping applications.

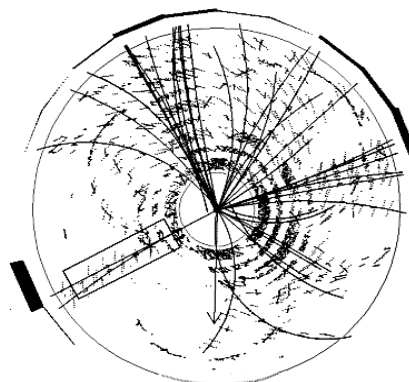
Vyto Grigaliunas, x2539, vyto@fnal.gov

Important Notice on System Names

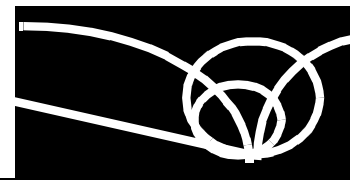
Upcoming releases of the most widely used DNS server and resolver code will enforce the rules on internet hostnames which were set forth in RFC 952 (October 1985) and RFC 1123 (October 1989). When those versions are deployed, systems and other devices with nonconforming names will suddenly be unresolvable. To protect against that, the Data Communications Group is going to start enforcing the character set restriction: letters, digits and hyphens only, plus periods to separate the domain components. Any other characters (notably underscores and slashes) in requested names will be changed to hyphens.

As time permits, we'll contact the admins of systems with existing nonconformant names with the goal of altering all such names before the problem comes up in practice.

Matt Crawford, x3461, crawdad@fnal.gov



A Guide to Computing Division Services



Computing Division, MS 120
Fermilab, P.O. Box 500,
Batavia, IL 60510

TELEPHONE: (708) 840-xxxx

Request forms: Newsgroup fnal.forms, INFO, or CD Library, WH8NE

New accounts, password changes, WH8NE x8118

Computing Division (Voice Mail) x3206

FAX 8th Floor x2783

Feynman Computing Center FAX x3785

HELP DESK, helpdesk@fnal.gov x2345

DATA CENTER SERVICES x2746

Feynman Computing Center x2746

DATA COMMUNICATIONS

Trouble Reporting.....x4373

ONLINE SYSTEMS

Trouble Reporting/Tech Liaison, WH8Eols@fnal

(On call pager through Data Center Services)

COMPUTER HARDWARE

Trouble Reporting.....x4373

EQUIPMENT SUPPORT GROUP

Repair Inquiryx2688

EQUIPMENT LOGISTICS SERVICES

Inquiry Service Counter.....x3447

DIVISION MANAGEMENT

Division Head, Joel Butler.....x3148

Deputy Division Head, Vicky Whitex3936

Associate Division Head, Irwin Gaines.....x4022

Assistant Division Heads

Gerry Bellendir.x3930

Judy Nichollsx3989

Al Thomasx3064

Adam Walters, PREP Equipment Manager.....x2696

COMPUTER PROTECTION PROGRAM MANAGER

Irwin Gaines.....x4022

COMPUTER DIAL-UP NUMBERS AND PORT SELECTOR CLASS CODES

Dial-In (up to 28800bps V.34/MNP10)..... 840-8134

Callback (up to 28800bps V.34/MNP10) 840-8555

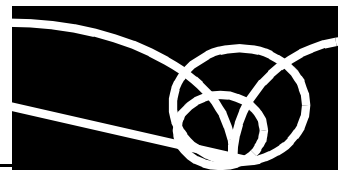
FNALV VAX Cluster FNALV

Terminal Server (Telnet, LAT)..... LAN, IP

DECserver 550 (LAT) DS550

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